ligands and, according to the Examiner (page 3 of the Office Action) labeled "through coupling one or more types of ligands to the surface of the particles, and ... through coupling with antibodies for certain cell markers." There is no "substantially planar assembly of beads ... embedded in a polymer," as in the claims, as the beads themselves are formed from the only polymer (PVAL) which is mentioned. Moreover, the Examiner contends that the encoding would be the "physical characteristic of the different antibodies bound to the particles." This alleged "labeling" is really the use of the particles in an assay format; it is not encoding of the particles. If a group of particles in Muller-Schulte bind to a number of different ligands/antibodies, one particle could not be distinguished from another, and the biomolecules they carry and the ligands/antibodies they bind to could not be distinguished from one another. There is no mention that the ligands/antibodies in Muller-Schulte carry different labels; and in a conventional assay, binding would be detected by detection of the label associated with the ligands/antibodies (or detecting the label on a secondary antibody which binds to the bound antibody). Accordingly, detection of labels associated with the ligands/antibodies would not allow determining "the type of biomolecule displayed on particular beads *and the type of analyte said biomolecule is capable of binding with.*" The rejection should be withdrawn.

The Examiner has rejected claims 82-83, 85-87 and 89 under Section 102(e) as anticipated by Shinoki et al. The Examiner again notes that in Shinoki et al. the "encoding would be the physical characteristic of the different antibodies bound to the particles." Shinoki et al. relates to carrying out an agglutination assay in a gel, using antibodies bound to particles and an analyte in the gel phase. There is no mention of labeling the particles, and no suggestion to do so, as there is no indication of assaying for detection of multiple analytes simultaneously (which could not be done in an agglutination assay, where agglutination of different analytes/antibodies cannot be distinguished). The Examiner again contends that the "encoding would be the physical characteristic of the different antibodies bound to the particles." In Shinoki et al., however, the antibodies do not carry any labeling to indicate binding – this is an agglutination assay where there is no label. Accordingly, "the physical characteristic of

the different antibodies" could not be detected in Shinoki et al., and the rejection should be withdrawn.

Anderson et al. is a bundle of microtubules which may include a gel, where the location (relative to other tubules in the array) of a detected signal from a bound molecule is used to determine the ligand in the microtubule which was bound. The Examiner notes that "the physical characteristic of the location of the beads and the binding component distinguishes beads from each other." Again, the Anderson et al. beads are not *labeled* so as to allow determining "the type of biomolecule displayed on particular beads *and the type of analyte said biomolecule is capable of binding with.*" Their location in Anderson et al. determines the binding component, and, upon binding an analyte, the location of the signal from a bound analyte is decoded to determine identity. The rejection should be withdrawn.

The Examiner has rejected claim 89 under Section 103(a) over Anderson et al. in view of Bryan et al., which relates to a device having micro-locations defined on a substrate, wherein each micro-location is for linking a macromolecule, and an independent photodetector integrated at each micro-location and optically coupled to each micro-location, each photodetector being configured to generate a sensed signal responsive to the photons of light emitted at the corresponding micro-location when a light-emitting chemical reaction occurs at that micro-location. As is true for Anderson et al., Bryan et al. is related to a location-encoding-detecting system, but does not disclose or suggest labeled particles as in the claims, whether or not in combination with Anderson et al. The rejection should be withdrawn.

Regarding the rejections under Section 103(a) of claim 90, over Muller-Shulte or Anderson et al. or Shinoki et al. in view of Schulz et al., as discussed above, there is no disclosure or suggestion of the subject matter of the independent claim 82 with or without Schulz et al., and the rejections should be withdrawn.

In conclusion, all rejections have been overcome, and allowance of the application is respectfully sought.

Respectfully submitted,

Dated:____ By: _____

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Applicant hereby petitions for any petition required to make this submission timely and in compliance with applicable rules. The Commissioner is hereby authorized to charge any fees due in connection with this submission and not otherwise covered by payment included herewith, or to credit any overpayment, to Deposit Account No. 502088.